

I claim:

1. A method to determine degradation of a humidity sensor used for controlling an engine of a vehicle, the humidity sensor exterior to a passenger compartment of the vehicle, the method
5 comprising:

determining whether to enable monitoring of the sensor based on vehicle operating conditions;

in response to a determination to enable monitoring,

10 comparing a signal from a humidity sensor interior to a passenger compartment of the vehicle to a signal from the humidity sensor exterior to said passenger compartment of the vehicle to determine whether either of said interior or exterior sensor has degraded.

15 2. The method of claim 1 further comprising using default setting for engine actuators in response to a determination that said exterior sensor has degraded.

20 3. The method of claim 1 further comprising using default setting for an amount of exhaust gas recirculation in response to a determination that said exterior sensor has degraded.

4. The method of claim 1 further comprising using default setting for an air-fuel ratio in response to a determination that said exterior sensor has degraded.

5 5. The method of claim 1 further comprising using default setting for a lean air-fuel ratio in response to a determination that said exterior sensor has degraded.

6. The method of claim 1 further comprising using default
10 setting for a lean air-fuel ratio limit to reduce engine misfires in response to a determination that said exterior sensor has degraded.

7. The method of claim 1 wherein said interior humidity
15 sensor is used to control a climate in said passenger compartment of the vehicle.

8. The method of claim 1 wherein said interior humidity sensor is used to control a clutch coupled to a compressor in an
20 air-conditioning system of the vehicle.

9. The method of claim 1 wherein said exterior humidity sensor is used to control engine operation.

10. A method to determine degradation of a humidity sensor used for controlling an engine of a vehicle, the humidity sensor exterior to a passenger compartment of the vehicle, the method comprising:

5 determining whether to enable monitoring of the sensor based on a duration since vehicle operation; and

 in response to a determination to enable monitoring, comparing a signal from a second humidity sensor to a signal from the humidity sensor exterior to said passenger compartment
10 of the vehicle to determine whether either of sensors has degraded.

11. The method of claim 10 further comprising using default setting for engine actuators in response to a determination that
15 said exterior sensor has degraded.

12. The method of claim 10 further comprising using default setting for an amount of exhaust gas recirculation in response to a determination that said exterior sensor has
20 degraded.

13. The method of claim 10 wherein said duration since engine operating includes a time since a key-on engagement.

14. The method of claim 10 wherein said second sensor is located exterior to said passenger compartment of the vehicle.

15. A method to determine degradation of a humidity sensor used for controlling an engine of a vehicle, the humidity sensor exterior to a passenger compartment of the vehicle, the method comprising:

determining whether to enable monitoring of the sensor based on an engine off duration; and

in response to a determination to enable monitoring, comparing a signal from a humidity sensor interior to a passenger compartment of the vehicle to a signal from the humidity sensor exterior to said passenger compartment of the vehicle to determine whether either of said interior or exterior sensor has degraded.

16. The method of claim 15 further comprising using default setting for engine actuators in response to a determination that said exterior sensor has degraded.

17. The method of claim 15 further comprising using default setting for an amount of exhaust gas recirculation in response to a determination that said exterior sensor has degraded.

18. The method of claim 15 wherein said interior humidity sensor is used to control a climate in said passenger compartment of the vehicle.

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19. The method of claim 18 wherein said interior humidity sensor is used to control a clutch coupled to a compressor in an air-conditioning system of the vehicle.